

CLAIMS:

1. An isolated STRAP-1 protein having an amino acid sequence shown in FIG. 1A (SEQ ID NO. XX).
2. An isolated polypeptide of at least 15 contiguous amino acids of the protein of claim 1.
3. An isolated polypeptide comprising an amino acid sequence which is at least 90% identical to the amino acid sequence shown in FIG. 1A (SEQ ID NO. XX) over its entire length.
4. An isolated polynucleotide selected from the group consisting of (a) a polynucleotide having the sequence as shown in FIG. 1A (SEQ ID NO. XX), wherein T can also be U; (b) a polynucleotide encoding a STRAP-1 polypeptide whose sequence is encoded by the cDNA contained in plasmid 8P1D4 clone 10.1 as deposited with American Type Culture Collection as Accession No. 98849; and (c) a polynucleotide encoding the STRAP-1 protein of claim 1.
5. An isolated polynucleotide which is fully complementary to a polynucleotide according to claim 4.
6. A recombinant expression vector which contains a polynucleotide according to claim 4.
7. A host cell which contains an expression vector according to claim 6.
8. A process for producing a STRAP-1 protein comprising culturing a host cell of claim 7 under conditions sufficient for the production of the polypeptide and recovering the STRAP-1 protein from the culture.
9. A STRAP-1 polypeptide produced by the method of claim 8.
10. An isolated STRAP-2 protein comprising the amino acid sequence shown in FIG. 9 (SEQ ID NO. XX).
11. An isolated polypeptide of at least 15 contiguous amino acids of the protein of claim 10.

12. An isolated polynucleotide selected from the group consisting of (a) a polynucleotide having the sequence as shown in FIG. 9 (SEQ ID NO. XX), wherein T can also be U; and (b) polynucleotide encoding the STRAP-2 protein of claim 10.
- 5 13. An isolated polynucleotide which is fully complementary to a polynucleotide according to claim 12.
- 10 14. An antibody which (a) immunohistochemically stains 293T cells transfected with an expression plasmid encoding STRAP-1 according to claim 1, wherein the transfected 293T cells express STRAP-1 protein; and, (b) does not immunohistochemically stain untransfected 293T cells.
- 15 15. The antibody of claim 14, wherein the 293T cells are transfected with an expression plasmid containing the STRAP-1 coding sequence within plasmid 8P1D4 clone 10.1 as deposited with American Type Culture Collection as Accession No. 98849.
16. An antibody which immunospecifically binds to the STRAP-1 protein of claim 1 or the polypeptide of claim 2.
- 20 17. A monoclonal antibody according to claim 16.
18. A fragment of the antibody of claim 17.
- 25 19. A recombinant protein comprising the antigen binding domain of the antibody of claim 17.
20. The antibody of claim 17 which is labeled with a detectable marker.
- 30 21. The monoclonal antibody of claim 17 which is conjugated to a toxin.
22. The monoclonal antibody of claim 17 which is conjugated to a therapeutic agent.
23. The antibody fragment of claim 18 which is labeled with a detectable marker.
- 35 24. The recombinant protein of claim 19 which is labeled with a detectable marker.
25. An antibody which immunospecifically binds to the STRAP-2 protein of claim 10 or the polypeptide of claim 11.

26. A monoclonal antibody according to claim 25.
27. The antibody of claim 26 which is labeled with a detectable marker.
- 5 28. The monoclonal antibody of claim 26 which is conjugated to a toxin.
29. The monoclonal antibody of claim 26 which is conjugated to a therapeutic agent.
- 10 30. An assay for detecting the presence of a STRAP-1 protein in a biological sample comprising contacting the sample with an antibody of claim 20, an antibody fragment of claim 23, or a recombinant protein of claim 24, and detecting the binding of STRAP-1 protein in the sample thereto.
- 15 31. An assay for detecting the presence of a STRAP-2 protein in a biological sample comprising contacting the sample with an antibody of claim 27, and detecting the binding of STRAP-2 protein in the sample thereto.
- 20 32. An assay for detecting the presence of a STRAP-1 polynucleotide in a biological sample, comprising
- 25 (a) contacting the sample with a polynucleotide probe which specifically hybridizes to the STRAP-1 cDNA contained within plasmid 8P1D4 clone 10.1 as deposited with American Type Culture Collection as Accession No. 98849, or the polynucleotide as shown in FIG. 1A (SEQ ID NO. XX), or the complements thereof; and
- 30 (b) detecting the presence of a hybridization complex formed by the hybridization of the probe with STRAP-1 polynucleotide in the sample, wherein the presence of the hybridization complex indicates the presence of STRAP-1 polynucleotide within the sample.
- 35 33. An assay for detecting the presence of a STRAP-2 polynucleotide in a biological sample, comprising
- (a) contacting the sample with a polynucleotide probe which specifically hybridizes to a polynucleotide of claim 12 or its complement; and
- (b) detecting the presence of a hybridization complex formed by the hybridization of the probe with STRAP-2 polynucleotide in the sample, wherein the presence of the

hybridization complex indicates the presence of STRAP-2 polynucleotide within the sample.

- 5 34. An assay for detecting the presence of STRAP-1 mRNA in a biological sample comprising:

(a) producing cDNA from the sample by reverse transcription using at least one primer;

- 10 (b) amplifying the cDNA so produced using STRAP-1 polynucleotides as sense and antisense primers to amplify STRAP-1 cDNAs therein;

(c) detecting the presence of the amplified STRAP-1 cDNA,

- 15 wherein the STRAP-1 polynucleotides used as the sense and antisense probes are capable of amplifying the polynucleotide shown in FIG. 1A (SEQ ID NO. XX).

- 20 35. An assay for detecting the presence of STRAP-2 mRNA in a biological sample comprising:

(a) producing cDNA from the sample by reverse transcription using at least one primer;

- 25 (b) amplifying the cDNA so produced using STRAP-2 polynucleotides as sense and antisense primers to amplify STRAP-2 cDNAs therein;

(c) detecting the presence of the amplified STRAP-2 cDNA,

- 30 wherein the STRAP-2 polynucleotides used as the sense and antisense probes are capable of amplifying the polynucleotide shown in FIG. 9 (SEQ ID NO. XX).

- 35 36. A composition for the treatment of prostate cancer comprising an antibody according to claim 17, 21 or 22, wherein the antibody binds to an extracellular domain of STRAP-1.

37. A composition for the treatment of colon cancer comprising an antibody according to claim 17, 21 or 22, wherein the antibody binds to an extracellular domain of STRAP-1.
- 5 38. A composition for the treatment of bladder cancer comprising an antibody according to claim 17, 21 or 22, wherein the antibody binds to an extracellular domain of STRAP-1.
- 10 39. A composition for the treatment of prostate cancer comprising an antibody according to claim 26 or 28, wherein the antibody binds to an extracellular domain of STRAP-2.